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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,565	01/04/2002	Leland L. Bass	5964	3695

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EXAMINER

SODERQUIST, ARLEN

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,565

Applicant(s)

BASS, LELAND L.

Examiner

Arlen Soderquist

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☒ Claim(s) 20-23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The disclosure is objected to because of the following informalities: the current status of all nonprovisional parent applications referenced should be included.

Appropriate correction is required.

2. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1 and 12, "said separator passage" and "said reduced lower separator portion" do not have antecedent basis. It appears that in line 6 of claim 1 and line 9 of claim 12, "said tube" should actually be "said separator". In claims 1 and 12 it is not clear what is reduced in the lower portion of the separator: thickness, diameter etc. In claim 3, it is not clear what structural limitation is being claimed since the specimen is only present during use and not positively recited as an element of the device. Furthermore, it is not clear how the air pocket defines the volume of specimen to be expressed: the specimen fills the air pocket or the air pocket prevents specimen from entering that space below the separator and limits the amount of specimen. In claims 6, 11, 15 and 19 it is not clear what structural limitation is intended since applicant appears to be trying to claim a property of the method of using the device rather than the structure of the device.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, and 5-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Swank (US 3,448,041). In the patent Swank teaches apparatus for treating blood prior to its use in transfusions. Particularly relevant to the instant claims are the structures shown in figures 3 and 7. As is illustrated in figure 3, the apparatus includes a vertically arranged tube (30) of glass or other easily sterilized material of sufficient length to provide the desired dwell time and capacity. At one end of the tube is an inlet port (32) through which the stored blood to be treated is introduced. At the other end is a pipette portion (outlet port 34) that passes the treated blood ready for use. One or more separators (baffles 36) may be provided in the tube. This directs the flow of blood toward the longitudinal center of the tube, preventing channeling along the side

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walls and insuring effective treatment. Although the separator (baffle) may assume diverse shapes, it preferably comprises a truncated cone tapering inwardly in the downstream direction, having a central opening (a reduced lower portion defining a passage), and fused or glued to the inner side walls of the tube. The embodiment shown in figure 7 is readily disassembled for cleaning and sterilization, although alternatively it may be manufactured as an integral, sealed unit for discarding after a single use. The improved form of the apparatus accordingly includes a vertically arranged tube (70) of glass, plastic or other easily sterilized material. The upper end of the tube is open, but mounts a removable cap (72) that is fitted with a sealing O-ring (74) and provided with a central infeed connection (76). The central portion of the bore of tube is formed with an annular shoulder (78, tapered portion). The lower portion of the tube is formed with another annular shoulder (80) and a tapered chamber (82) which delivers the treated blood to a centrally located pipette portion (outfeed connection 84). A separator (baffle 86) having a central opening (88) seats and is supported on shoulder 78. The upper surface of the baffle is conical and guides the raw blood through central opening, to locate it centrally of the tube for most efficient treatment.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-19 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ballies (US 4,154,690) in view of Darling and Alspector (US 4,824,560) or Van Vlasselaer (US 5,474,687). In the patent Ballies teaches a device for use in blood centrifugation processes, said

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device comprising a centrifuge tube containing a substantially rigid separator element and said tube having walls of predetermined thickness and material of construction to enable flexing of only that portion of the tube wall coincident with said separator element, sufficient to enable passage of liquid by said separator element, in response to centrifugal force. The embodiments of figures 3-12 show a tube (2) having a pipette portion (19) extending from a lower end thereof. Figures 6 and 7 show a cap for the upper open end of the tube. Figure 7 also shows a plug (50) as part of a cap for the lower end of the tube. Figure 10 shows a tapered tube that has a decrease in the internal diameter of the bottom portion relative to the top portion. Ballies does not teach a separator that is fixed to provide a predetermined volume of fluid after centrifuging or a funnel shape for the separator.

In the paper Darling teaches a water separator. An even more efficient separator can be made if an internal funnel is inserted to conduct all of the condensate to the bottom of the tube. This is made of a piece of 6-mm. glass tubing flared at one end and inserted into a piece of cork. The cork is then force fit into the device.

In the patent Alspector teaches sedimentation classification of particulate material in liquid dispersion. The dispersion is centrifuged in a tubular vessel comprising at least two neighboring compartments communicating via at least one opening which may be capillary. The lowermost compartment has a sealed bottom and the uppermost has an open upper end. Upon completion of the centrifugation a liquid fraction with dispersed particulate material is decanted from the uppermost compartment. Useful products may also be recovered from other compartments. The embodiments of figures 4-6 have compartments with defined volumes and allow that collection of multiple components or fractions that can be separated by centrifugation.

In the paper Van Vlasselaer teaches a constriction member (12) for use in a centrifuge tube. Particularly relevant to the instant claims are the shape of the member which a top surface that is slightly angled inwardly toward the opening in the constriction member. The bottom surface is taught as also being slightly angled (column 6 lines 12-18) although not shown in the figures. In the paragraph bridging columns 6-7 Van Vlasselaer teaches that the constriction may be either an insert or molded into the tube at the time the tube is formed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate fixed separation elements such as taught by Darling or Van Vlasselaer

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because of their recognized ability to separate components in a mixture during centrifugation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a separator designed to leave a fixed volume of fluid in the bottom of the tube as taught by Alspector or Van Vlasselaer because of the ability to collect a defined volume of material in the lower compartment as taught by Alspector or Van Vlasselaer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use shapes other than the funnel shape because as determined by the Court change in form or shape is an obvious engineering design (see *In re Dailey*, 149 USPQ 47 (CCPA 1976)).

7. Claims 20-23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The art of record fails to teach or fairly suggest the structure of claims 20-23

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additionally cited art relates to centrifuge tube devices. The valve or closure features of the cited art are designed to open during the time the tube is being centrifuged or do not use a pin on the plug to open the valve against the urging of a spring as claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arlen Soderquist whose current telephone number is (571) 272-1265 as a result of the examiner moving to the new USPTO location. The examiner's schedule is variable between the hours of about 5:30 AM to about 5:00 PM on Monday through Thursday and alternate Fridays.

The fax phone number to file official papers for this application or proceeding is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the examiner at the above telephone number.



January 22, 2004

ARLEN SODERQUIST
PRIMARY EXAMINER